

In the Claims:

Kindly amend the claims as follows:

1. (Previously Presented) A control system comprising:

a system controller comprising a bus arbiter and a non-volatile memory and having only periodically executed functions and passive functions;

a bus employing a center arbitration method, wherein a single bus arbiter is connected to a plurality of CPUs via the bus, from which devices can be detached and to which the detached devices can be attached again as power being supplied; and

a plurality of CPU boards which execute the same processes synchronously, as devices arranged on said bus, wherein:

said system controller control the system to continue processes only by periodically executed functions and passive functions of a hardware structure of the system such that when one of said CPU boards on said bus is down while accessing to said non-volatile memory, said system controller assigns the right to use said bus to other CPU board according to a requirement from said other CPU board; and

even if one of the CPU boards is down, the system is restored by detaching said down CPU board from said bus and attaching said detached CPU board to said bus again as power for the whole system being supplied.

2. (Previously Presented) The control system according to claim 1 further comprising a duplex power source system having a plurality of power sources, wherein:

even if one of the CPU boards or power sources is down, the system is restored by detaching said down CPU board or said down power source from said bus and attaching said detached CPU board or said detached power source to said bus again as power for the whole system being supplied.

3. (Currently Amended) ~~The control system according to claim 2~~

A control system comprising:

a system controller comprising a bus arbiter and a non-volatile memory and having only periodically executed functions and passive functions;

a bus employing a center arbitration method, wherein a single bus arbiter is connected to a plurality of CPUs via the bus, from which devices can be detached and to which the detached devices can be attached again as power being supplied; and

a plurality of CPU boards which execute the same processes synchronously, as devices arranged on said bus, wherein:

said system controller control the system to continue processes only by periodically executed functions and passive functions of a hardware structure of the system such that when one of said CPU boards on said bus is down while accessing to said non-volatile memory, said system controller assigns the right to use said bus to other CPU board according to a requirement from said other CPU board; and

even if one of the CPU boards is down, the system is restored by detaching said down CPU board from said bus and attaching said detached CPU board to said bus again as power for the whole system being supplied.

further comprising a duplex power source system having a plurality of power sources, wherein

even if one of the CPU boards or power sources is down, the system is restored by detaching said down CPU board or said down power source from said bus and attaching said detached CPU board or said detached power source to said bus again as power for the whole system being supplied.

further comprising a duplex IO board system having a plurality of IO boards, wherein:

said system controller control the system to continue processes only by periodically executed functions and passive functions of the hardware structure of the system such that when one of said CPU boards or one of said IO boards on said bus is down while accessing to said non-volatile memory, said system controller assigns the right to use said bus to other CPU board or other IO board of said duplex IO board system according to a requirement from said other CPU board or said other IO board; and

even if either one of the CPU boards, the IO boards or the power sources is down, the system is restored by detaching said down CPU board, down IO board or down power source from said bus and attaching said detached device to said bus again as power for the whole system being supplied.

4. (Previously Presented) A system control method for controlling a control system, said control system comprising:

a system controller comprising a bus arbiter and a non-volatile memory and having only periodically executed functions and passive functions;

a bus employing a center arbitration method from which devices can be detached and to which the detached devices can be attached again as power being supplied; and

a plurality of CPU boards which execute the same processes synchronously as devices arranged on said bus, wherein:

when one of said CPU boards on said bus is down while accessing to said non-volatile memory, said system controller assigns the right to use said bus to other CPU board according to a requirement from said other CPU board so as to continue processing; and

said control system is restored by detaching said down CPU board from said bus and attaching said detached CPU board to said bus again as power for the whole system being supplied.